EPSRC CDT in Distributed Algorithms

PhD Project: Using Artificial Intelligence to Help Predict Treatment Response in Patients

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Project Description

The project aims to advance the field by creating and assessing novel AI tools that can predict cancer patients' response to treatments with unprecedented accuracy. This initiative holds the promise of providing doctors with valuable guidance on the most effective treatments tailored to individual cancer patients. Intersecting various disciplines, the project will leverage extensive multi-modal data encompassing image data, clinical symptoms, and demographic information, all sourced from the clinical partners. These diverse data sets will serve as the building blocks for the innovative foundation AI model.

The project's core focus involves the development of cutting-edge AI tools, drawing on the strengths of both deep learning and statistical learning. Through the utilization of multi-modal data, these tools aim to enhance the efficiency and precision of clinical decision-making, specifically in predicting treatment outcomes. A paramount concern is to ensure the resulting AI models are not only accurate but also explainable and trustworthy for both the patients and doctors. Rigorous evaluations of these tools will be conducted in collaboration with the clinical industry partner, ensuring their effectiveness and reliability in real-world medical scenarios. Ultimately, the project aspires to improve the medical decision support systems by introducing advanced, interpretable, and reliable AI tools for predicting treatment responses in individual cancer patients.

For more information please go to the [EPSRC CDT In Distributed Algorithms](#) website.